

CD14 (17-321): sc-4296 WB

BACKGROUND

Lipopolysaccharide (LPS) elicits the secretion of mediators and cytokines produced by activated macrophages and monocytes. CD14 is a glycosylphosphatidylinositol (GPI)-anchored protein found on the surfaces of monocytes and polymorphonuclear leukocytes. CD14 functions as a receptor for LPS, resulting in the secretion of various proteins. An important component in the LPS activation of monocytes through the CD14 receptor is the "adapter molecule", lipopolysaccharide binding protein (LBP). There are two forms of CD14, a membrane-associated form (mCD14) and a soluble form (sCD14). mCD14 responds to LPS alone and facilitates the secretion of proteins, while cells not expressing mCD14 fail to respond to LPS. The cells that lack mCD14 respond to LPS/LBP in the presence of sCD14.

REFERENCES

1. Simmons, D.L., Tan, S., Tenen, D.G., Nicholson-Weller, A. and Seed, B. 1989. Monocyte antigen CD14 is a phospholipid anchored membrane protein. *Blood* 73: 284-289.
2. Schumann, R.R. 1992. Function of lipopolysaccharide (LPS)-binding protein (LBP) and CD14, the receptor for LPS/LBP complexes: a short review. *Res. Immunol.* 143: 11-15.
3. Kielan, T.L. and Blecha, F. 1995. CD14 and other recognition molecules for lipopolysaccharide: a review. *Immunopharmacology* 29: 187-205.
4. Camussi, G., Mariano, F., Biancone, L., De Martino, A., Bussolati, B., Montrucchio, G. and Tobias, P.S. 1995. binding protein and CD14 modulate the synthesis of platelet-activating factor by human monocytes and mesengial and endothelial cells stimulated with lipopolysaccharide. *J. Immunol.* 155: 316-324.
5. Detmers, P.A., Zhou, D., Powell, D., Lichenstein, H., Kelley, M. and Pironkova, R. 1995. Endotoxin receptors (CD14) are found with CD16 (Fc γ RIII) in an intracellular compartment of neutrophils that contains alkaline phosphatase. *J. Immunol.* 155: 2085-2095.
6. Parsons, P.E., Gillespie, M.M., Moore, E.E., Moore, F.A. and Worthen, G.S. 1995. Neutrophil response to endotoxin in the adult respiratory distress syndrome: role of CD14. *Am. J. Respir. Cell Mol. Biol.* 13: 152-160.
7. Bufler, P., Stiegler, G., Schuchmann, M., Hess, S., Kruger, C., Stelter, F., Eckerskorn, C., Schutt, C. and Engelmann, H. 1995. Soluble lipopolysaccharide receptor (CD14) is released via two different mechanisms from human monocytes and CD14 transfectants. *Eur. J. Immunol.* 25: 604-610.

SOURCE

CD14 (17-321) is expressed in *E. coli* as a 60 kDa tagged fusion protein corresponding to amino acids 17-321 of CD14 of mouse origin.

PRODUCT

CD14 (17-321) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

CD14 (17-321) is suitable as a Western blotting control for sc-9150.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

For research use only, not for use in diagnostic procedures.